

## SESSION—Discrete differential geometry

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TITRE/TITLE : "INTRODUCTION TO LINEAR AND NON-LINEAR INTEGRABLE THEORIES IN DISCRETE COMPLEX ANALYSIS"

The field of discrete differential geometry lies on the border of classical differential geometry and discrete geometry. Its aim is to develop discrete geometric theories which respect fundamental aspects of the corresponding smooth ones. Also, these discretizations often clarify structures of the smooth theory. In my lecture, I will focus on the area of discrete complex analysis. In particular, I will introduce several concepts of discrete holomorphic functions based on a linear approach and on nonlinear theories concerning circle patterns and discrete conformal equivalence. These examples are used to illustrate some characteristic features in discrete differential geometry like integrability as consistency and Baecklund—Darboux transformations.